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<110> HANSSON, Lennart
EGELRUD, Torbjorn

<120> SCCE MODIFIED TRANSGENIC MAMMALS AND THEIR USE AS MODELS OF HUMAN DISEASE

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<141> 2002-02-11

<150> US 60/267,422

<151> 2001-02-09

<150> DK PA 2001 00218

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<212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM3300

<400> 16
 ggtggccctg ctcaagtggca 20

<210> 17
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM3301

<400> 17
 caccatggat gacacagcct gg 22

<210> 18
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM3302

<400> 18
 aataaagaaa cacaaaaccc 20

<210> 19
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM3418

<400> 19
 tgtaatatca ttgtgggc 18

<210> 20
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM4118

<400> 20
 ggatgtgaag ctcacctc 18

<210> 21
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM4121

<400> 21
 tggagtcggg gatgccag 18

<210> 22
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM4720

<400> 22
 gggaggggtg agagagagtg cagtg 25

<210> 23
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer SYM4899

<400> 23
 agtctaggct gcagccccta c 21

<210> 24
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer hEXON1

<400> 24
 ctcgagggat ctgatgtgat cc 22

<210> 25
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer mEXON1

<400> 25
 ctgggagtga cttggcgtgg ctct 24

<210> 26
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer specific for human SCCE IE2

 <400> 26
 gctctcccat tagtccccag aga 23

 <210> 27
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer specific for human SCCE MJ2

 <400> 27
 ccacttggtg aacttgacac cttg 24

 <210> 28
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Forward primer covering the position 427-444 of the human SCCE cDNA sequence.

 <400> 28
 gcgaaccccc tggaacaa 18

 <210> 29
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Reverse primer covering the position 490-510 of the human cDNA sequence in exon five.

 <400> 29
 acatccacgc acatgaggtc a 21

 <210> 30
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>

<223> The real time amplification probe covering the position 445-473 of the human cDNA sequence in exon four.

<400> 30
cctgtactgt ctccggctgg ggcactacc 29

<210> 31
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer mS3

<400> 31
caaggagaaa ggattataga tggct 25

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer 698

<400> 32
aaggctccgc acccatggca g 21

<210> 33
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer 696

<400> 33
tgcaatggtg actcaggggg gccctt 26

<210> 34
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> PCR primer H2

<400> 34
gacccaggcg tctacactca agt 23

<210> 35
<211> 25
<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer mS4

<400> 35

gagaccatga aaacccatcg ctaac

25

<210> 36

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer KO 0905

<400> 36

tgactttctt cacactggac gacagc

26

<210> 37

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer GR 0905

<400> 37

cttcacactg gctgatagcc tggccg

26

<210> 38

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer Ngr

<400> 38

caggggtggcg gaatgacctc atggccct

28

<210> 39

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer RA 1016

<400> 39

ctactccaca aggacccatg tcaatgac

28

<210> 40

<211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> PCR primer nRA 1016

 <400> 40
 gctgtgtgct ggcattcccg actctaag 28

<210> 41
 <211> 30
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> SMART II oligonucleotide

 <400> 41
 aagcagtggg aacaacgcag agtacgcggg 30

<210> 42
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> 5'-RACE cDNA synthesis primer

 <220>
 <221> misc_feature
 <222> (27)..(27)
 <223> n is a or g or c or t

 <400> 42
 tttttttttt tttttttttt tttttvn 27

<210> 43
 <211> 45
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Long universal primer

 <400> 43
 ctaatacgac tcactatagg gcaagcagtg gtaacaacgc agagt 45

<210> 44
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Short universal primer

<400> 44

ctaatacgac tcactatagg gcc

23

<210> 45

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Nested universal primer

<400> 45

aagcagtggg aacaacgcag agt

23

<210> 46

<211> 243

<212> PRT

<213> Artificial Sequence

<220>

<223> Deduced amino acid sequence from the C-terminal part of SCCE from cow.

<400> 46

Met	Thr	Thr	Pro	Leu	Val	Ile	Leu	Leu	Leu	Thr	Phe	Ala	Leu	Gly	Ser
1				5				10						15	

Val	Ala	Gln	Glu	Asp	Gln	Gly	Asn	Lys	Ser	Gly	Glu	Lys	Ile	Ile	Asp
		20					25						30		

Gly	Val	Pro	Cys	Pro	Arg	Gly	Ser	Gln	Pro	Trp	Gln	Val	Ala	Leu	Leu
		35					40					45			

Lys	Gly	Ser	Gln	Leu	His	Cys	Gly	Gly	Val	Leu	Leu	Asn	Glu	Gln	Trp
	50					55				60					

Val	Leu	Thr	Ala	Ala	His	Cys	Met	Asn	Glu	Tyr	Asn	Val	His	Met	Gly
65					70					75					80

Ser	Val	Arg	Leu	Val	Gly	Gly	Gln	Lys	Ile	Lys	Ala	Thr	Arg	Ser	Phe
			85					90						95	

Arg	His	Pro	Gly	Tyr	Ser	Thr	Gln	Thr	His	Ala	Asn	Asp	Leu	Met	Leu
			100					105					110		

Val Lys Leu Asn Gly Arg Ala Lys Leu Ser Ser Ser Val Lys Lys Val
 115 120 125

Asn Leu Pro Ser His Cys Asp Pro Pro Gly Thr Met Cys Thr Val Ser
 130 135 140

Gly Trp Gly Thr Thr Thr Ser Pro Asp Val Thr Phe Pro Gly Gln Leu
 145 150 155 160

Met Cys Thr Asp Val Lys Leu Ile Ser Pro Gln Asp Cys Arg Lys Val
 165 170 175

Tyr Lys Asp Leu Leu Gly Asp Ser Met Leu Cys Ala Gly Ile Pro Asn
 180 185 190

Ser Arg Thr Asn Ala Cys Asn Gly Asp Ser Gly Gly Pro Leu Met Cys
 195 200 205

Lys Gly Thr Leu Gln Gly Val Val Ser Trp Gly Ser Phe Pro Cys Gly
 210 215 220

Gln Pro Asn Asp Pro Gly Val Tyr Thr Gln Val Cys Lys Tyr Val Asn
 225 230 235 240

Trp Ile Lys

<210> 47

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Deduced amino acid sequence from the C-terminal part of SCCE from pig.

<400> 47

Met Ala Arg Pro Leu Leu Pro Pro Arg Leu Ile Leu Leu Leu Ser Leu
 1 5 10 15

Ala Leu Gly Ser Ala Ala Gln Glu Gly Gln Asp Lys Ser Gly Glu Lys
 20 25 30

Ile Ile Asp Gly Val Pro Cys Pro Gly Gly Ser Arg Pro Trp Gln Val
 35 40 45

Ala Leu Leu Lys Gly Asn Gln Leu His Cys Gly Gly Val Leu Val Asn
 50 55 60

Gln Gln Trp Val Leu Thr Ala Ala His Cys Met Met Asn Asp Tyr Asn
 65 70 75 80

Val His Leu Gly Ser Asp Arg Leu Asp Asp Arg Lys Gly Gln Lys Ile
 85 90 95

Arg Ala Met Arg Ser Phe Arg His Pro Gly Tyr Ser Thr Gln Thr His
 100 105 110

Val Asn Asp Leu Met Leu Val Lys Leu Ser Arg Pro Ala Arg Leu Ser
 115 120 125

Ala Ser Val Lys Lys Val Asn Leu Pro Ser Arg Cys Glu Pro Pro Gly
 130 135 140

Thr Thr Cys Thr Val Ser Gly Trp Gly Thr Thr Thr Ser Pro Asp Val
 145 150 155 160

Thr Phe Pro Ala Asp Leu Met Cys Thr Asp Val Lys Leu Ile Ser Ser
 165 170 175

Gln Asp Cys Lys Lys Val Tyr Lys Asp Leu Leu Gly Ser Ser Met Leu
 180 185 190

Cys Ala Gly Ile Pro Asn Ser Lys Thr Asn Ala Cys Asn Gly Asp Ser
 195 200 205

Gly Gly Pro Leu Val Cys Lys Gly Thr Leu Gln Gly Leu Val Ser Trp
 210 215 220

Gly Thr Phe Pro Cys Gly Gln Pro Asn Asp Pro Gly Val Tyr Thr Gln
 225 230 235 240

Val Cys Lys Tyr Ile Asp Trp Ile Asn
 245

<210> 48

<211> 253

<212> PRT

<213> Artificial Sequence

<220>

<223> Deduced amino acid sequence from the C-terminal part of SCCE from
homo sapiens.

<400> 48

Met Ala Arg Ser Leu Leu Leu Pro Leu Gln Ile Leu Leu Leu Ser Leu
1 5 10 15

Ala Leu Glu Thr Ala Gly Glu Glu Ala Gln Gly Asp Lys Ile Ile Asp
20 25 30

Gly Ala Pro Cys Ala Arg Gly Ser His Pro Trp Gln Val Ala Leu Leu
35 40 45

Ser Gly Asn Gln Leu His Cys Gly Gly Val Leu Val Asn Glu Arg Trp
50 55 60

Val Leu Thr Ala Ala His Cys Lys Met Asn Glu Tyr Thr Val His Leu
65 70 75 80

Gly Ser Asp Thr Leu Gly Asp Arg Arg Ala Gln Arg Ile Lys Ala Ser
85 90 95

Lys Ser Phe Arg His Pro Gly Tyr Ser Thr Gln Thr His Val Asn Asp
100 105 110

Leu Met Leu Val Lys Leu Asn Ser Gln Ala Arg Leu Ser Ser Met Val
115 120 125

Lys Lys Val Arg Leu Pro Ser Arg Cys Glu Pro Pro Gly Thr Thr Cys
130 135 140

Thr Val Ser Gly Trp Gly Thr Thr Thr Ser Pro Asp Val Thr Phe Pro
145 150 155 160

Ser Asp Leu Met Cys Val Asp Val Lys Leu Ile Ser Pro Gln Asp Cys
165 170 175

Thr Lys Val Tyr Lys Asp Leu Leu Glu Asn Ser Met Leu Cys Ala Gly
180 185 190

Ile Pro Asp Ser Lys Lys Asn Ala Cys Asn Gly Asp Ser Gly Gly Pro
195 200 205

Leu Val Cys Arg Gly Thr Leu Gln Gly Leu Val Ser Trp Gly Thr Phe
 210 215 220

Pro Cys Gly Gln Pro Asn Asp Pro Gly Val Tyr Thr Gln Val Cys Lys
 225 230 235 240

Phe Thr Lys Trp Ile Asn Asp Thr Met Lys Lys His Arg
 245 250

<210> 49

<211> 226

<212> PRT

<213> Artificial Sequence

<220>

<223> Deduced amino acid sequence from the C-terminal part of SCCE from rat.

<400> 49

Met Gly Val Trp Leu Leu Ser Leu Leu Thr Val Leu Leu Ser Leu Ala
 1 5 10 15

Leu Glu Thr Ala Gly Gln Gly Glu Arg Ile Ile Asp Gly Tyr Lys Cys
 20 25 30

Lys Glu Gly Ser His Pro Trp Gln Val Ala Leu Leu Lys Gly Asp Gln
 35 40 45

Leu His Cys Gly Gly Val Leu Val Gly Glu Ser Trp Val Leu Thr Ala
 50 55 60

Ala His Cys Lys Met Gly Gln Tyr Thr Val His Leu Gly Ser Asp Lys
 65 70 75 80

Ile Glu Asp Gln Ser Ala Gln Arg Ile Lys Ala Ser Arg Ser Phe Arg
 85 90 95

His Pro Gly Tyr Ser Thr Arg Thr His Val Asn Asp Ile Met Leu Val
 100 105 110

Lys Met Asp Lys Pro Val Lys Met Ser Asp Lys Val Gln Lys Val Lys
 115 120 125

Leu Pro Asp His Cys Glu Pro Pro Gly Thr Leu Cys Thr Val Ser Gly
 130 135 140

Trp Gly Thr Thr Thr Ser Pro Asp Val Thr Phe Pro Ser Asp Leu Met
 145 150 155 160

Cys Ser Asp Val Lys Leu Ile Ser Ser Gln Glu Cys Lys Lys Val Tyr
 165 170 175

Lys Asp Leu Leu Gly Lys Thr Met Leu Cys Ala Gly Ile Pro Asp Ser
 180 185 190

Lys Thr Asn Thr Cys Asn Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
 195 200 205

Asp Thr Leu Gln Gly Leu Val Ser Trp Gly Thr Tyr Pro Cys Gly Gln
 210 215 220

Pro Asn
 225

<210> 50
 <211> 249
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Deduced amino acid sequence from the C-terminal part of SCCE from mouse.

<400> 50

Met Gly Val Trp Leu Leu Ser Leu Ile Thr Val Leu Leu Ser Leu Ala
 1 5 10 15

Leu Glu Thr Ala Gly Gln Gly Glu Arg Ile Ile Asp Gly Ile Lys Cys
 20 25 30

Lys Glu Gly Ser His Pro Trp Gln Val Ala Leu Leu Lys Gly Asn Gln
 35 40 45

Leu His Cys Gly Gly Val Leu Val Asp Lys Tyr Trp Val Leu Thr Ala
 50 55 60

Ala His Cys Lys Met Gly Gln Tyr Gln Val Gln Leu Gly Ser Asp Lys
 65 70 75 80

Ile Gly Asp Gln Ser Ala Gln Lys Ile Lys Ala Thr Lys Ser Phe Arg
 85 90 95

His Pro Gly Tyr Ser Thr Lys Thr His Val Asn Asp Ile Met Leu Val
 100 105 110

Arg Leu Asp Glu Pro Val Lys Met Ser Ser Lys Val Glu Ala Val Gln
 115 120 125

Leu Pro Glu His Cys Glu Pro Pro Gly Thr Ser Cys Thr Val Ser Gly
 130 135 140

Trp Gly Thr Thr Thr Ser Pro Asp Val Thr Phe Pro Ser Asp Leu Met
 145 150 155 160

Cys Ser Asp Val Lys Leu Ile Ser Ser Arg Glu Cys Lys Lys Val Tyr
 165 170 175

Lys Asp Leu Leu Gly Lys Thr Met Leu Cys Ala Gly Ile Pro Asp Ser
 180 185 190

Lys Thr Asn Thr Cys Asn Gly Asp Ser Gly Gly Pro Leu Val Cys Asn
 195 200 205

Asp Thr Leu Gln Gly Leu Ala Ser Arg Gly Thr Tyr Pro Cys Gly Gln
 210 215 220

Pro Asn Asp Pro Gly Val Tyr Thr Gln Val Cys Lys Tyr Lys Arg Trp
 225 230 235 240

Val Met Glu Thr Met Lys Thr His Arg
 245